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L1: Entry 2 of 2

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Mar 16, 1995

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TITLE: Removing acid components from liquid hydrocarbon(s) - by supplying aq. alkali soln. and light oil fraction to either side of porous tubular membrane so that the pores are not wetted by one of two phases of hydrocarbon/alkali soln.

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PATENT-ASSIGNEE:

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PRIORITY-DATA: 1993NL-0001535 (September 6, 1993)

## PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
<u>WO 9507134 A1</u>	March 16, 1995	E	012	B01D061/24
AU 9479504 A	March 27, 1995		000	B01D061/24
NL 9301535 A	April 3, 1995		010	B01D063/04

DESIGNATED-STATES: AM AT AU BB BG BR BY CA CH CN CZ DE DK EE ES FI GB GE HU JP KE KG KP  
KR KZ LK LR LT LU LV MD MG MN MW NL NO NZ PL PT RO RU SD SE SI SK TJ TT UA US UZ VN AT  
BE CH DE DK ES FR GB GR IE IT KE LU MC MW NL OA PT SD SE

CITED-DOCUMENTS:EP 218854; NL 9000014 ; US 3956112 ; US 4789468 ; US 4921612 ; US  
5045206 ; WO 9109668

## APPLICATION-DATA:

PUB-NO	APPL-DATE	APPL-NO	DESCRIPTOR
WO 9507134A1	September 5, 1994	1994WO-NL00214	
AU 9479504A	September 5, 1994	1994AU-0079504	
AU 9479504A		WO 9507134	Based on
NL 9301535A	September 6, 1993	1993NL-0001535	

INT-CL (IPC): B01 D 61/24; B01 D 63/04; C10 G 31/11

ABSTRACTED-PUB-NO: WO 9507134A  
BASIC-ABSTRACT:

Removal of acidic components such as mercaptans from liquid hydrocarbons is claimed, in which a stream of light oil fraction with a high content of mercaptans is pumped from a tank (2) sequentially through porous filament modules (1) and is collected as a light oil fraction with a low content of mercaptans in a collection tank (3). An aq. alkali soln. is pumped at a considerably lower flow than that of the light oil fraction from tank (4) through the porous filament modules (1) to the collection tank (5).

The modules (1) comprise a number of hollow tubular filaments (6) assembled in parallel to end plates (7,8) such that they are open to the respective end chambers (9,10) which form part of a frame (11). The chamber (9) has an inlet (12) and the chamber (10) an

outlet (13) diagonally opposite the inlet (12). During use, the aq. alkali soln. enters through inlet (12) and passes via chamber (9) through the porous tubular filaments (6) to the outlet (13) and then to the inlet of the following filament module (1). The light oil fraction flows in the direction of the arrow generally perpendicular to and between the hollow porous filaments (6) contg. the alkali soln.. The light oil fraction is supplied at a sufficiently low over-pressure compared to that of the soln. inside the tubular filaments that it does not enter the pores. The mercaptans in the light oil fraction flow via the pores in the membrane filaments (6), which are themselves hydrophobic, into the aq. alkali soln. where they are taken up and ultimately removed to the collection tank (5).

USE - For removal of acid components, such as mercaptans, from liquid hydrocarbons e.g. light oil fractions.

ADVANTAGE - Enables faster flow through the system and higher extraction efficiency. The extraction equipment can be substantially reduced in size since the diffusion path is short, and the contact surface is large.

CHOSEN-DRAWING: Dwg.1,2/4

TITLE-TERMS: REMOVE ACID COMPONENT LIQUID HYDROCARBON SUPPLY AQUEOUS ALKALI SOLUTION  
LIGHT OIL FRACTION SIDE POROUS TUBE MEMBRANE SO PORE WET ONE TWO PHASE HYDROCARBON  
ALKALI SOLUTION

DERWENT-CLASS: H04 J01

CPI-CODES: H04-A02; J01-D;

SECONDARY-ACC-NO:

CPI Secondary Accession Numbers: C1995-056225